

Attachment I

Modification of the Suspension on the Release of Scrap Metal for Recycling from DOE/NNSA Facilities Background and Supporting Discussion

Introduction

On July 13, 2000, Secretary Bill Richardson imposed an agency-wide suspension of the unrestricted release of scrap metal from radiological areas at DOE facilities for the purpose of recycling. The suspension was imposed in response to concerns from the general public and industry groups about the potential effects of radioactivity in or on material released pursuant to the established requirements of DOE O 5400.5, *Radiation Protection of the Public*. The suspension was to remain in force until DOE developed and implemented improvements to its release criteria and information management practices associated with release of personal property. Secretary Richardson instructed DOE's Assistant Secretary for Environment, Safety and Health to revise DOE O 5400.5 and associated guidance documents and give members of the public an opportunity to provide comments on the proposal to release scrap metal. DOE subsequently proposed revisions to DOE O 5400.5 that would permit the unrestricted release of scrap metals for recycling only if the metal had no radioactivity. The revisions were made available for public comment at 65 FR 60653, October 12, 2000.

Based on the magnitude of comments and concerns expressed by the general public and industry, Secretary Richardson decided to maintain the suspension and halted revisions to DOE O 5400.5, until the completion of a programmatic EIS (PEIS) to "allow an open healthy discussion of the broadest range of concerns associated with the unrestricted release of materials from [DOE] sites." (See January 19, 2001 memo). The purpose of the PEIS was to serve as a "basis for decisions concerning disposition policies for the recycle of scrap metals that may have residual surface activity" (See 66 FR 36562, Notice of Intent to Prepare a Programmatic Environmental Impact statement on the Disposition of Scrap Metals and the Announcement of Public Scoping Meetings). Richardson's January 19 memorandum also provided specific guidance on what improvements to DOE/NNSA radiological clearance practices were required for the suspension to be lifted. Notwithstanding the need to improve radiation monitoring, independent verification, and record keeping and reporting outlined in the memorandum, the memorandum noted that the Department's release criteria (DOE O 5400.5) ensured that potential public doses were well below applicable standards and the Department's review found no evidence of public harm from the release. Work on the PEIS was halted and revisions to DOE O 5400.5 were not issued. However, the Office of Health, Safety and Security has completed development of DOE O 458.1 which incorporates requirements that address Secretary Richardson's recommended improvements and hence, supports the proposed action.

The action proposed in this correspondence is to delegate the authority from the Secretary to each Under Secretary to resume radiological clearance of scrap metal from DOE/NNSA sites if certain performance improvements directed by former Secretary of Energy Bill Richardson are implemented, institutionalized and maintained. These improvements enhance the rigor and credibility of the Department's radiological control processes. Modification of the suspension

policy to allow for resumption of the release of these metals would be contingent on completion of an Environmental Assessment (EA) that would evaluate the potential environmental impact of the proposed action and describe the Department's rationale for delegating decision-making authority to the three Under Secretaries.

Adverse Effects of the Suspension

Although the suspension was originally contemplated as a temporary measure to allow time for DOE/NNSA sites to revise and improve performance and credibility of its radiological clearance programs, it has been in place for almost 10 years. The result has been a large accumulation of materials and equipment that are not contaminated and meet established requirements for release for re-use and recycling. These inventories of accumulated material continue to grow and the cost of disposing of them as waste would be significant. NNSA estimates that the recycle market value of these materials is approximately \$70M. This estimate is expected to grow substantially as weapons dismantlement continues in accordance with the strategic arms reductions recommended by the latest Nuclear Posture Review. Estimates to dispose of all current suspension impacted material at NNSA sites as waste top \$100M. Applying the suspension policy to a single upcoming EM decontamination and decommissioning project at the Portsmouth Site near Piketon, OH, will add over \$1B in waste management and handling costs.

In addition, the suspension has created confusion and in some cases overly conservative application at DOE/NNSA sites. Some sites have incorrectly assumed the suspension was associated with a health and safety concern and have extended the reach of the policy beyond scrap metal to items of personal property containing any metal components. This conservatism has compounded the problem of growing inventories, increasing management costs as well as consumption of additional land disposal capacity for materials that are compliant with DOE/NNSA property clearance processes and standards.

Development and Improvement of Release Criteria and Information Management Practices

In September 2008, NNSA began a series of site visits to confirm that the improvements directed by former Secretary of Energy Bill Richardson had been made. In August 2009, the DOE Office of Science joined the effort by evaluating SLAC National Accelerator Laboratory and Thomas Jefferson National Accelerator Laboratory. In July 2010, the Office of Energy Programs through Office of Environmental Management (EM) also formally joined the effort with an evaluation of the Portsmouth Site. These visits were led by NNSA, Office of Science and EM headquarters personnel with support from the DOE's Office of Health Safety and Security, Office of Nuclear Policy, Quality Assurance and Environment. The purpose of these visits was to determine the status of each site with respect to implementing the aforementioned improvements to radiological clearance processes ordered by former Secretary of Energy Bill Richardson in his January 19, 2001, memorandum. In March 2010, an inter-site workshop on property clearance produced a set of "Principles for Management and Operations of Radiological Clearance Programs" representing a consensus of NNSA as well as selected Office of Science and EM field elements to institutionalize the improvements to radiological clearance programs directed by former Secretary of Energy Bill Richardson. The Principles are as follows:

1. Program offices and sites commit to an active and continuous process of validating radiological postings and will continuously endeavor to minimize the number and aerial extent of areas requiring such postings. Deliberate care will be exercised to ensure non-contaminated materials are not introduced to posted areas unless necessary to support mission requirements.
2. Sufficient information should be gathered, managed and preserved as process knowledge to support validation of the clearance decision by a third, independent party. Process knowledge, including any supporting radiological survey data, should be retrievable in less than one week for clearance events less than one year old; in about a week for events less than three years old; and one month for events more than three years old.
3. Site office personnel are responsible for independent verification and oversight of the integrity of radiological clearance programs. Site offices should develop a risk based approach to establish an independent verification program commensurate with the scope and type of clearance activities underway at the site. Sites will separate this oversight function from the site contractors engaged in property sales or other disposition functions.
4. Sites will use the Annual Site Environmental Report as the primary conduit to report the amount and type of personal property cleared. Sites will use a combination of public reading rooms, regular public meetings and other forums to permit the public to engage in a dialogue regarding radiological clearance practices. Site public affairs offices will be the primary contact with members of the public to ensure accurate and consistent information is provided in response to inquiries.
5. For accelerator facilities, items with radiation levels determined to be indistinguishable from background radiation levels are not impacted by accelerator operations. Material meeting this criterion may be cleared from radiological controls and offered for any type of beneficial reuse. Areas deemed to be impacted by operations will be based on the following objective criteria:
 - a. Evaluation of the potential radioactivity of components is based on process knowledge. The evaluation may include identifying areas and/or activities that can potentially activate or contaminate materials. The evaluation can be used to set the needs, requirements and graded approach for the measurement protocols.
 - b. Measurement protocols.
 - c. Technical basis documents supporting the release protocols and measurement protocols.
 - d. Administrative controls for release of materials with activity above background – these can include; a) recipient notification concepts, b) quality control and verification processes, and 3) documentation on release processes.
6. To the extent possible, sites will model their radiological clearance programs according to the processes defined in the MARSAME¹ manual. Integration of the

¹ MARSAME is the Multi Agency Survey and Assessment manual for Materials and Equipment. The MARSAME approach has been approved for use by the Departments of Defense and Energy as well as the Nuclear Regulatory Commission and the Environmental Protection Agency.

MARSAME approach into existing clearance programs promotes consistency between federal agencies as well as DOE/NNSA sites. MARSAME has been reviewed by the USEPA Science Advisory Board and has been subjected to extensive public comment through the *Federal Register* process. Use of it in support of radiological decisions will increase public confidence in the integrity of DOE/NNSA clearance programs.

In order to ensure that the *Principles of Management and Operations of Radiological Clearance Programs* are implemented and institutionalized consistently across all field sites, the NNSA Office of Nuclear Materials Integration, with advice and counsel from the DOE Nuclear Materials advisory Board will perform the following functions:

- a. Provide an appropriate level of coordination and assistance to field elements to ensure continued conformance to the aforementioned principles;
- b. Offer guidance and support as requested;
- c. Coordinate other Program Secretarial Officers and/or other relevant headquarters organizations as necessary and appropriate;
- d. Monitor the Occurrence Reporting System (ORPS) for issues related to release of items from radiological control;
- e. Report on performance trends.

Implementation of the *Principles of Management and Operation of Radiological Clearance Programs* substantively and formally addresses the challenges issued by former Secretary of Energy Bill Richardson to improve performance of radiological clearance programs. Accordingly, it would be appropriate to delegate authority to each of the Under Secretaries to resume clearance of scrap metal from their sites after confirming and documenting compliance with and effective implementation of the *Principles for Management and Operation of Radiological Clearance Programs* and upon completion of an Environmental Assessment.